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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/617,308	07/14/2000	Toshitaka Agano	Q58739	8383
7590 12/01/2004			EXAMINER	
Sughrue Mion Zinn MacPeak & Seas Darryl Mexic 2100 Pennsylvania Avenue N W Washington, DC 20037			ABDULSELAM, ABBAS I	
			ART UNIT	PAPER NUMBER
			2674	

DATE MAILED: 12/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/617,308

Applicant(s)

AGANO, TOSHITAKA

Examiner

Abbas I Abdulsalam

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 22 October 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

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## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments, see # 17, filed 10/22/04, with respect to the rejection(s) of claim(s) 1-23 under U.S.C 103 (a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Nakanishi et al. (USPN 5805196), Yamazaki (USPN 6285800) and Hirota et al. (USPN 5973802).

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakanishi et al. (USPN 5805196) in view of Yamazaki (USPN 6285800) and Hirota et al. (USPN 5973802).

Regarding claim 1, Nakanishi teaches a monochromatic CRT along with a display means for successively inputting color images into the monochromatic CRT as monochromatic image (see the abstract).

However, Nakanishi does not teach a unit pixel being composed of RGB cells. Yamazaki on the other hand teaches a method of image processing as shown in Fig. 6 in which an RGB-

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YMCK conversion part (42) which introduces an 8-bit RGB data of each color (256 gradations) equivalent to one pixel of the output from a reading part (20) (S1). See col. 6, lines 57-60.

Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made to modify Nakanishi's image processing to adapt Yamazaki's RGB-one pixel arrangement. One would have been motivated in view of the suggestion in Yamazaki that RGB-one pixel arrangement as illustrated in Fig. 6 equivalently yields and satisfies the desired "unit pixel composed of RGB cells". The use of RGB-one pixel arrangement helps function an image processing as taught by Yamazaki.

Nakanishi does not teach "displaying the monochromatic image having a higher gradation resolution than reproduction performance of each of the RGB cells in the color display device". Hirota on the other hand teaches that when a monochromatic image is reproduced, a user can select desired mixing coefficients of red, green and blue in order to control gradation data for the reproduction of a monochromatic image (see the abstract and Fig. 1).

Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made to modify Nakanishi's image processing to adapt Hirota's gradation control as shown in Fig. 1. One would have been motivated in view of the suggestion in Hirota that gradation control as illustrated in Fig. 1 equivalently yields and satisfies the desired "monochromatic image having a higher resolution. The use gradation control helps function an image reproducing process as taught by Hirota.

Regarding claim 2, Nakanishi teaches a monochromatic image being displayed on monochromatic CRT (51) according to a color image signal, which is color-separated into the three primary colors (red, green blue) via color filters (52a, 52b 52c). See col. 14, lines 8-22).

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Yamazaki as mentioned above teaches an 8-bit RGB data of each color (256 gradations) as being equivalent to one pixel. It would have been obvious to utilize Yamazaki's RGB-one pixel arrangement inside Nakanishi's monochromatic display.

Regarding claim 3, Nakanishi teaches a monochromatic image being displayed on monochromatic CRT (51) according to a color image signal, which is color-separated into the three primary colors (red, green blue) via color filters (52a, 52b 52c). See col. 14, lines 8-22. Yamazaki teaches admitting as an input the RGB data of the size of one pixel (abstract). It would have been obvious to utilize Yamazaki's input of RGB with respect to one pixel inside Nakanishi's monochromatic display.

Regarding claim 4, Nakanishi teaches an exposure luminance setting means for each separation color and emitting luminance control means (abstract). Iota teaches selection of the desired mixing coefficients of red, green and blue in order to control gradation data for reproduction of monochromatic image (abstract). It would have been obvious to utilize Hirota's selection coefficients with respect to red, green and blue colors, along with Nakanishi's luminance control to establish relationship between input values and luminance.

Regarding claim 5, Nakanishi teaches an exposure luminance setting means for each separation color and emitting luminance control means (abstract). Hirota teaches selection of the desired mixing coefficients of red, green and blue in order to control gradation data for reproduction of monochromatic image (abstract). It would have been obvious to utilize Hirota's selection coefficients with respect to red, green and blue colors, along with Nakanishi's luminance control to establish relationship between input values and luminance.

Regarding claim 6, Yamazaki teaches admitting as an input the RGB data of the size of one pixel (abstract). Hirota teaches selection of the desired mixing coefficients of red, green and blue in order to control gradation data for reproduction of monochromatic image (abstract). It would have been obvious to manipulate Hirota's coefficients in order to determine the ratio of RGB in a pixel.

Regarding claim 7, Nakanishi teaches a monochromatic image being displayed on monochromatic CRT (51) according to a color image signal, which is color-separated into the three primary colors (red, green blue) via color filters (52a, 52b 52c). See col. 14, lines 8-22). Also see Nakanishi's Fig. 6 & 13. Yamazaki teaches admitting as an input the RGB data of the size of one pixel (abstract). Hirota teaches selection of the desired mixing coefficients of red, green and blue in order to control gradation data for reproduction of monochromatic image (abstract). It would have been obvious to utilize Hirota's coefficients in order to determine the input value of RGB with respect to Nakanishi's spectral luminance distribution of the monochromatic CRT (51) as shown in Fig. 13 (col. 15, lines 63-65).

Regarding claim 8, Yamazaki teaches admitting as an input the RGB data of the size of one pixel (abstract). Hirota teaches selection of the desired mixing coefficients of red, green and blue in order to control gradation data for reproduction of monochromatic image (abstract). It would have been obvious to manipulate Hirota's coefficients in order to determine the ratio of RGB in a pixel.

Regarding claim 9, Nakanishi teaches an exposure time for each color being different and the also setting of exposure time. See col. 2, lines 37-42 and col. 5, lines 27-31.

Regarding claim 17, Yamazaki teaches processing on an image which the processing being in conformity with the characteristic of the image without impairing its gradation and the resolution (col. 45-49). It would have been obvious that the image processing is well known in medical field.

Regarding claim 19, Nakanishi teaches an exposure luminance setting means for each separation color and emitting luminance control means (abstract). Hirota teaches selection of the desired mixing coefficients of red, green and blue in order to control gradation data for reproduction of monochromatic image (abstract). It would have been obvious to utilize Hirota's selection coefficients with respect to red, green and blue colors, along with Nakanishi's luminance control to establish relationship between input values and luminance.

Regarding claim 22, Regarding claim 14, Nakanishi teaches a monochromatic image being displayed on monochromatic CRT (51) according to a color image signal which is color-separated into the three primary colors (red, green blue) via color filters (52a, 52b 52c). See col. 14, lines 8-22). Also see Nakanishi's Fig. 6 & 13. Yamazaki teaches admitting as an input the RGB data of the size of one pixel (abstract). Hirota teaches selection of the desired mixing coefficients of red, green and blue in order to control gradation data for reproduction of monochromatic image (abstract). It would have been obvious to utilize Hirota's coefficients in order to determine the input value of RGB with respect to Nakanishi's monochromatic CRT (51) as shown in Fig. 13 (col. 15, lines 63-65).

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Regarding claim 10, Nakanishi teaches a monochromatic CRT along with a display means for successively inputting color images into the monochromatic CRT as monochromatic image (see the abstract). However, Nakanishi does not teach a unit pixel being composed of RGB cells. Yamazaki on the other hand teaches a method of image processing as shown in Fig. 6 in which an RGB-YMCK conversion part (42) which introduces an 8-bit RGB data of each color (256 gradations) equivalent to one pixel of the output from a reading part (20) (S1). See col. 6, lines 57-60.

Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made to modify Nakanishi's image processing to adapt Yamazaki's RGB-one pixel arrangement. One would have been motivated in view of the suggestion in Yamazaki that RGB-one pixel arrangement as illustrated in Fig. 6 equivalently yields and satisfies the desired "unit pixel composed of RGB cells". The use of RGB-one pixel arrangement helps function an image processing as taught by Yamazaki.

Nakanishi does not teach a data allocating unit by which input data of a monochromatic image to be displayed on said color display device is allotted to R, G and B data for the R, G and B cells respectively". However, Nakanishi teaches a monochromatic image being displayed on monochromatic CRT (51) according to a color image signal, which is color-separated into the three primary colors (red, green blue) via color filters (52a, 52b 52c). See col. 14, lines 8-22. Yamazaki teaches admitting as an input the RGB data of the size of one pixel (abstract),

It would have been obvious to one of ordinary skill in the art to utilize Yamazaki's input of RGB with respect to one pixel inside Nakanishi's monochromatic display, and apply the primary color separation (red, green blue through color filters 52a, 52b 52c) for the purpose o



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assigning proportion of RGB color. One would have been motivated in view of the suggestion Nakanishi's filters (52a, 52b 52c) as modified with Yamazaki provide a functional equivalence to the desired data allotting unit.

While Nakanishi as modified teaches the equivalence of an allotting unit, Nakanishi does not teach "a processing unit by which the R, G and B data of the monochromatic image obtained by allotment by said data allotting unit is output to the R, G and B cells for display on said color display device".

Hirota on the other hand teaches a monochromatic reproduction color can be selected among several colors including black as shown in the displayed picture FIG. 4. Hirota discloses that when monochromatic copy mode is selected, the picture shown in FIG. 4 for monochromatic reproduction is displayed in an operational panel (154), and mixing coefficients and monochromatic color are designated, Hirota further teaches that a CPU (152) controls the signal processor 10, and the operational panel 154 is used to give data and to display data as shown in Fig. 2A. see col. 5, lines 46-48, 4col. 6, line 24-26, 35-43 and Fig.

Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made to modify Nakanishi's image processing to adapt Hirota's CPU (152) along with an operation panel (154) as shown in Fig. 2A. One would have been motivated in view of the suggestion in Hirota that CPU (152) along with an operation panel (154) as configured in Fig. 2A equivalently yields and is functionally equivalent to the desired "processing unit". The use gradation control helps function an image reproducing process as taught by Hirota.

Regarding claim 11, Nakanishi teaches an exposure luminance setting means for each separation color and emitting luminance control means (abstract). Hirota teaches selection of the

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desired mixing coefficients of red, green and blue in order to control gradation data for reproduction of monochromatic image (abstract). It would have been obvious to utilize Hirota's selection coefficients with respect to red, green and blue colors, along with Nakanishi's luminance control to establish relationship between input values and luminance.

Regarding claim 12, Nakanishi teaches an exposure luminance setting means for each separation color and emitting luminance control means (abstract). Hirota teaches selection of the desired mixing coefficients of red, green and blue in order to control gradation data for reproduction of monochromatic image (abstract). It would have been obvious to utilize Hirota's selection coefficients with respect to red, green and blue colors, along with Nakanishi's luminance control to establish relationship between input values and luminance.

Regarding claim 13, Yamazaki teaches admitting as an input the RGB data of the size of one pixel (abstract). Hirota teaches selection of the desired mixing coefficients of red, green and blue in order to control gradation data for reproduction of monochromatic image (abstract). It would have been obvious to manipulate Hirota's coefficients in order to determine the ratio of RGB in a pixel.

Regarding claim 14, Nakanishi teaches a monochromatic image being displayed on monochromatic CRT (51) according to a color image signal, which is color-separated into the three primary colors (red, green blue) via color filters (52a, 52b 52c). See col. 14, lines 8-22). Also see Nakanishi's Fig. 6 & 13. Yamazaki teaches admitting as an input the RGB data of the size of one pixel (abstract). Hirota teaches selection of the desired mixing coefficients of red, green and blue in order to control gradation data for reproduction of monochromatic image (abstract). It would have been obvious to utilize Hirota's coefficients in order to determine the

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input value of RGB with respect to Nakanishi's spectral luminance distribution of the monochromatic CRT (51) as shown in Fig. 13 (col. 15, lines 63-65).

Regarding claim 15, Yamazaki teaches admitting as an input the RGB data of the size of one pixel (abstract). Hirota teaches selection of the desired mixing coefficients of red, green and blue in order to control gradation data for reproduction of monochromatic image (abstract). It would have been obvious to manipulate Hirota's coefficients in order to determine the ratio of RGB in a pixel.

Regarding claim 16, Nakanishi teaches an exposure time for each color being different and the also setting of exposure time. See col. 2, lines 37-42 and col. 5, lines 27-31.

Regarding claim 18, Yamazaki teaches processing on an image which the processing being in conformity with the characteristic of the image without impairing its gradation and the resolution (col. 45-49). It would have been obvious that the image processing is well known in medical field

Regarding claim 20, Nakanishi teaches an exposure luminance setting means for each separation color and emitting luminance control means (abstract). Hirota teaches selection of the desired mixing coefficients of red, green and blue in order to control gradation data for reproduction of monochromatic image (abstract). It would have been obvious to utilize Hirota's selection coefficients with respect to red, green and blue colors, along with Nakanishi's luminance control to establish relationship between input values and luminance.

Regarding claim 21 Hirota further teaches that a CPU (152) controls the signal processor 10, and the operational panel 154 is used to give data and to display data as shown in Fig. 2A.

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Regarding claim 23, Regarding claim 14, Nakanishi teaches a monochromatic image being displayed on monochromatic CRT (51) according to a color image signal which is color-separated into the three primary colors (red, green blue) via color filters (52a, 52b 52c). See col. 14, lines 8-22). Also see Nakanishi's Fig. 6 & 13. Yamazaki teaches admitting as an input the RGB data of the size of one pixel (abstract). Hirota teaches selection of the desired mixing coefficients of red, green and blue in order to control gradation data for reproduction of monochromatic image (abstract). It would have been obvious to utilize Hirota's coefficients in order to determine the input value of RGB with respect to Nakanishi's monochromatic CRT (51) as shown in Fig. 13 (col. 15, lines 63-65).

### *Conclusion*

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following prior art is cited for further reference.

U.S. Pat. No. 5,122,872 to Nagano

4. Any inquiry concerning this communication or earlier communication from the examiner should be directed to **Abbas Abdulsalam** whose telephone number is **(703) 305-8591**. The examiner can normally be reached on Monday through Friday (9:00-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Richard Hjerpe**, can be reached at **(703) 305-4709**.

**Any response to this action should be mailed to:**

Commissioner of patents and Trademarks

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Washington, D.C. 20231

or faxed to:

**(703) 872-9314**

Hand delivered responses should be brought to Crystal park II, Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology center 2600 customer Service office whose telephone number is (703) 306-0377.

Abbas Abdulsalam

Examiner

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November 26, 2004

  
REGINA LIANG  
PRIMARY EXAMINER